UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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ART UNIT	PAPER NUMBER
3629	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 August 2008*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 July 2008* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1.   This action is in reply to the Request for Continued Examination filed on August 15, 2008.

2.   Claims 1-20 are currently pending and have been examined.

Drawings

3.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include all of the following reference sign(s) mentioned in the description: Fig. 2 does not contain labeling of reference numbers 44 and 52 that allow it to correlate to the specification's description (using reference numbers) of the figure on page 9.   Further, it appears that page 8 of the specification also pertains to figure 2, however, nodes 42 and 44 and edge 46 (per the specification) are not identified in figure 2.

4.   The ability to understand the invention through the combination of the specification and the drawings is limited as the result of the omission of the proper correlation of the specification to figure 2.

5.   Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6.   The Replacement Sheet provided for figure 3 is entered.

Specification

7.   The specification is objected to for failure to provide references to the salient objects in Figure 3,

such as "a characteristic of interest", "the directed graph", "an edge having a predetermined

relative volume of transition", "detailed views". Without reference numbers to correlate to the

figure, the ability to understand the scope of the invention is limited.

8.   Applicant's amended specification, filed July 28, 2008, is entered.

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

10.   <u>Claims 1-20</u> are rejected under 35 U.S.C. 103(a) as being unpatentable over Macleod Beck et al.

(US Pub. No. 2002/0055853, hereafter referred to as "Macleod") in view of Leshem et al. (US Pat.

No. 6,341,310, hereafter referred to as "Leshem").

11.   **Claim 1:** Macleod discloses

- *an event log module operable to accept one or more event logs from each of the plural*

   contact mediums, each event log having plural contact sessions, each contact session having

   one or more time-stamped user interactions, each interaction with a labeled reference, each

   labeled reference providing information about the product; ("multimedia threading" (P[0151])

   provides event logging for *plural contact mediums* and contact sessions (P[0059]: "recording

   all agent/customer interactions" using "e-mail, videomail, file transfers, chat sessions, IP calls,

   and CTI COST transactions such as voice calls, voice mails, faxes..."); time-stamp (P[0156])

   and product label: (P[0157]: "a thread or string may represent dialog about a customer,

   product..."); Further support of a labeled reference providing product information stems from

the transcript and audit trail of the customer interactions (P[0075]) that is used to build a knowledge base by extracting maximum information that becomes a threaded interaction history (P[0089-0090]) and where determinations for performing processes of the invention are based on product (P[0095]). P[0140] teaches that the multimedia interactions are accessed via text blocks. A text block is a reference. Further, in P[0212-0214], the interactions are stored in the IOM and include meta-data objects (labeled references) based on purchase information (i.e., product information) such that the IOM is used to interface to product information databases. Thus, the interactions are stored such that they provide product information.)

- *an event modeling engine interfaced with the event log module and operable to compile the event logs as a temporal relationship of customer interactions in a contact session through one or more of the contact mediums;* (P[0284]: associations are derived from stored and real-time data records (i.e., event logs); P[0300]:dialog sorter recognizes the time/date stamp in order to organize dialogs. P[0311]: the specialized threads created may aid the enterprise in such areas as improving customer service and streamlining operations.)

- *an event tracking graphical user interface* (P[0301]: a display allows an interactive picture of the new thread and may appear as a tree connecting various interactive icons representing the dialog and associated hard media (i.e., contact medium))

12.   Macleod does not disclose *a directed graph having a node for each labeled reference, the nodes interconnected by edges derived from the time stamps to order nodes* or displaying *the directed graph*.

13.   Leshem, however, discloses displaying URLs of a site map where each "visible link is displayed as a one-way arrow (indicating link direction)" (C29; L8-13), nodes interconnected by edges (C19; L37-39) and "using access date/time stamps to determine the chronological sequence of URLs followed by each visitor" (C28; L33-35). Fig. 19 is a directed graph displayed by the system.)

14.   Though Macleod discloses product labeled references, it is obvious that URLs also serve as product labeled references. Leshem provides that each node corresponds to a content object of

the Web site (C6; L43-49). It is inherent that URLs correspond to web pages. It is old and well known that web pages are used to convey product information, therefore the corresponding URL would be a product labeled reference. In Macleod's system, customer uses the self-help wizard to obtain data regarding purchased products, (P[0388]), thus the URLs associated with the self-help wizard will inherently contain product information labels corresponding to the wizard web page.

15. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included displaying directed graphs with nodes interconnected by edges, as disclosed by Leshem in the system disclosed by Macleod, for the motivation of providing a method of tracking user activity and behavior patterns to graphically display the information on a site map. (Leshem; C27; L63-66). This feature permits fine-grain inspection of the site usage data which is useful for analyzing security attacks and studying visitor behavior patterns. (Leshem; C30; L35-38) One would be motivated to expand Macleod to use this data analysis means to supplement its STM module that is geared toward improving customer service and streamlining operations. (Macleod; P[0311]). Macleod also discloses that the self-help wizard has a reporting system that access updated information in the IOM to abstract meta-data and allows statistical calculation of client access to aid wizard authors in more effectively designing the wizard. (Macleod; P[0391]).

16. Further, Macleod discloses that agents have web access (P[0096-97]), thus the system of Macleod is capable of using the system of Leshem to track, not only customer web interactions, but also agent interactions, thus producing graphical displays of both user type activities with the predictable results of tracking and storing URL access in a chronological manner for customers and agents accessing web pages and scripts while interacting with customers.

17. **Claim 11:** Macleod discloses

- *logging product user interactions through the contact mediums by product user identifications, product information labeled references and time stamps;* ("multimedia threading" (P[0151]) provides event logging for *contact mediums* and user interactions

(P[0059]: "recording all agent/customer interactions" using "e-mail, videomail, file transfers, chat sessions, IP calls, and CTI COST transactions such as voice calls, voice mails, faxes..."); time-stamp (P[0156]) and product label (P[0157]: "a thread or string may represent dialog about a customer, product...") Further support of a labeled reference providing product information stems from the transcript and audit trail of the customer interactions (P[0075]) that is used to build a knowledge base by extracting maximum information that becomes a threaded interaction history (P[0089-0090]) and where determinations for performing processes of the invention are based on product (P[0095]). P[0140] teaches that the multimedia interactions are accessed via text blocks. A text block is a reference. Further, in P[0212-0214], the interactions are stored in the IOM and include meta-data objects (labeled references) based on purchase information (i.e., product information) such that the IOM is used to interface to product information databases. Thus, the interactions are stored such that they provide product information.)

- *identifying contact sessions of product users, each contact session having one or more product information labeled references associated with a product user identification within a predetermined time;* (time-stamp (P[0156]) and product label (P[0157]: "a thread or string may represent dialog about a customer, product..." and "An identifier is assigned to an entity"; P[0103]: access may be controlled through subscription, thus a customer ID is provided)

- *compiling the contact sessions* (P[0284]: associations are derived from stored and real-time data records (i.e., event logs); P[0300]:dialog sorter recognizes the time/date stamp in order to organize dialogs. P[0311]: the specialized threads created may aid the enterprise in such areas as improving customer service and streamlining operations.)

- *presenting a visualization of the contact sessions* (P[0301]: a display allows an interactive picture of the new thread and may appear as a tree connecting various interactive icons representing the dialog and associated hard media (i.e., contact medium))

18.   Macleod does not disclose *a directed graph having a node associated with each product information labeled reference, the nodes interconnected by edges, each edge associated with a user interaction at two nodes within the predetermined time, the edges defining a path between nodes for each contact session* or highlighting *edges having a predetermined characteristic.*

19.   Leshem, however, discloses displaying URLs of a site map where each "visible link is displayed as a one-way arrow (indicating link direction)" (C29; L8-13), nodes interconnected by edges (C19; L37-39) and "using access date/time stamps to determine the chronological sequence of URLs followed by each visitor" (C28; L33-35). Color coding is used to display the user activity (C27; L62-65) Fig. 19 is a directed graph displayed by the system.)

20.   Though Macleod discloses product labeled references, it is obvious that URLs also serve as product labeled references. Leshem provides that each node corresponds to a content object of the Web site (C6; L43-49). It is inherent that URLs correspond to web pages. It is old and well known that web pages are used to convey product information, therefore the corresponding URL would be a product labeled reference. In Macleod's system, customer uses the self-help wizard to obtain data regarding purchased products, (P[0388]), thus the URLs associated with the self-help wizard will inherently contain product information labels corresponding to the wizard web page.

21.   Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included displaying directed graphs with nodes interconnected by edges, as disclosed by Leshem in the system disclosed by Macleod, for the motivation of providing a method of tracking user activity and behavior patterns to graphically display the information on a site map. (Leshem; C27; L63-66). This feature permits fine-grain inspection of the site usage data which is useful for analyzing security attacks and studying visitor behavior patterns. (Leshem; C30; L35-38) One would be motivated to expand Macleod to use this data analysis means to supplement its STM module that is geared toward improving customer service and streamlining operations. (Macleod; P[0311]). Macleod also discloses that the self-help wizard has a reporting system that access updated information in the IOM to abstract meta-data and allows

statistical calculation of client access to aid wizard authors in more effectively designing the wizard. (Macleod; P[0391]).

22.   Further, Macleod discloses that agents have web access (P[0096-97]), thus the system of Macleod is capable of using the system of Leshem to track, not only customer web interactions, but also agent interactions, thus producing graphical displays of both user type activities with the predictable results of tracking and storing URL access in a chronological manner for customers and agents accessing web pages and scripts while interacting with customers.

23.   **Claims 2, 3, 4, 8, 12, 13, 14 and 15:** Macleod discloses a self-help wizard (P[0369-0373] loaded on a computer (i.e., information handling system) which provides instruction and direction (i.e., troubleshooting; P[0378]) using pre-scripted options. It is inherent that a web-based self-help wizard comprises web page references. Macleod further discloses telephone conversations where agents use scripts (P[0091]). Macleod also discloses contact sessions that include self-help wizards and live assistance (i.e., a telephone call). (P[0391]).

24.   **Claims 5, 6, 7, 16 and 18:** Macleod discloses clients first accessing a self-help wizard then requiring live assistance (i.e., telephone call) (P[0391]) and offering "an I-phone option" for direct customer service (P[0120]) via window 133 (a web-based form) (P[0106]). Macleod also discloses routines comprising various steps (i.e., paths) for performing processes may be determined by rules (i.e., predetermined). (P[0095]).

25.   Macleod does not disclose highlighting paths according to relative volume of contacts associated with the edges.

26.   Leshem, however, discloses determining probable paths taken by visitors to a web site (C28; L27-30) and displaying using a color-coding scheme (C29; L1-5) and associating different link colors with different relative levels of user activity. (C29; L3-5).

27.   Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have included highlighting paths, as disclosed by Leshem, in the system of Macleod for the motivation of providing a method of tracking user activity and behavior patterns to graphically display the information on a site map. (Leshem; C27; L63-66). This feature permits fine-grain

inspection of the site usage data which is useful for analyzing security attacks and studying visitor behavior patterns. (Leshem; C30; L35-38). Color-coding is a well known means of drawing a user's attention to data of specific interest, such as, associating different link colors with different relative levels of user activity. (Leshem; C29; L3-5).

28. **Claims 9, 10 and 17:** Macleod discloses displaying multimedia threading for relating each multimedia interaction, whether incoming to or out going from, the system (P[0151]), but does not disclose displaying edges, nodes or a directed graph.

29. Leshem, however, discloses displaying URLs of a site map where each "visible link is displayed as a one-way arrow (indicating link direction)" (C29; L8-13), nodes interconnected by edges (C19; L37-39); displaying entry and exit points (C28; L3-7); distinguishing incoming links to a parent from out-going links from the parent (C15; L13-16) and complete path display (C30; L31-38).

30. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have included complete path display, as disclosed by Leshem, in the system of Macleod for the motivation of permitting fine-grain inspection of the site usage data which is useful for analyzing security attacks and studying visitor behavior patterns. (Leshem; C30; L35-38) One would be motivated to expand Macleod to use this data analysis means to supplement its STM module that is geared toward improving customer service and streamlining operations. (Macleod; P[0311]).

31. **Claim 19 and 20:** Macleod discloses clients first accessing a self-help wizard (first contact medium) then requiring live assistance (i.e., telephone call-second contact medium) (P[0391]) and offering "an I-phone option" for direct customer service (P[0120]) via window 133 (a web-based form) (P[0106]). Macleod also discloses routines comprising various steps (i.e., paths) for performing processes may be determined by rules (i.e., predetermined). (P[0095]). Macleod also discloses using mined data to affect routing of interactions and creating new dialog that results in new thread additions (i.e., altering the information associated with a product reference to impact user interactions) (P[0164]). Macleod also discloses reporting the ratio of the number of clients successfully using the wizard to the number that used the wizard, then required live assistance, to more effectively design various self-help scripts. (P[0391]).

32.   Macleod does not disclose identifying nodes with an edge having a predetermined characteristic.

33.   Leshem, however, discloses determining probable paths taken by visitors to a web site (C28; L27-30) and displaying using a color-coding scheme (C29; L1-5) and associating different link colors with different relative levels of user activity (i.e., predetermined characteristic). (C29; L3-5).

34.   Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have included identifying nodes with an edge, as disclosed by Leshem, in the system of Macleod for the motivation of providing a method of tracking user activity and behavior patterns to graphically display the information on a site map. (Leshem; C27; L63-66). This feature permits fine-grain inspection of the site usage data which is useful for analyzing security attacks and studying visitor behavior patterns. (Leshem; C30; L35-38). In combination with Macleod, using Leshem's system to track user activity associated with using a wizard, followed by using an I-phone option where the client gets direct customer service (P[0120]), one detects the node associated with live assistance and therefore is able to determine the ratio of the number of clients successfully using the wizard to the number that used the wizard, then required live assistance. (P[0391]) This information allows the system of Macleod to improve scripts to drive client behavior to answer his own questions without substantial assistance, thus freeing agents to handle other issues. (Macleod; P[0018]).

Response to Arguments

35.   Applicant's arguments filed August 15, 2008 have been fully considered but they are not persuasive.

36.   With respect to Applicant's argument that Macleod/Leshem fails to disclose a product labeled reference, Macleod teaches the storage of meta-data associated with each customer product based interaction, as detailed above (and not, as applicant provides, in P[0156]). The combination with Leshem provides the teaching of using the analysis of data using a directed graph with nodes and edges, therefore, regardless of the source of the interaction data of

Macleod (web, phone, email), the technique of applying a directed graph for purposes of analysis, is disclosed.

37.   With respect to the previous objections made to Figure 2, the Examiner notes the amendments are incomplete. The Examiner maintains the objections to Figure 2 and the associated text of the specification for not providing reference numbers that allow correlation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gabrielle McCormick whose telephone number is (571)270-1828. The examiner can normally be reached on Monday - Thursday (5:30 - 4:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Weiss can be reached on 571-272-6812. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. M./
Examiner, Art Unit 3629

/John G. Weiss/
Supervisory Patent Examiner, Art Unit 3629